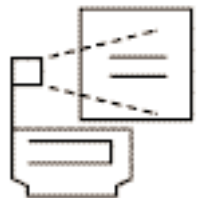


lesson twelve

saving and investing



overheads



pay yourself first (a little can add up)

example 1:

Save this each week	At % Interest	In 10 years you'll have
\$7.00	5%	\$4,720
14.00	5%	9,440
21.00	5%	14,160
28.00	5%	18,880
35.00	5%	23,600

example 2:

If you invest \$1,000 each year (\$19.20 per week)

Interest Rate	5 yrs.	10 yrs.	15 yrs.	20 yrs.
5%	\$5,525	\$12,578	\$21,578	\$33,065
6%	5,637	13,181	23,276	36,786
7%	5,751	13,816	25,129	40,995
8%	5,867	14,487	27,152	45,762
9%	5,985	15,193	29,361	51,160
10%	6,105	15,937	31,772	57,257
11%	6,228	16,722	34,405	64,203
12%	6,353	17,548	37,279	75,052

types of savings accounts



savings account

- Depositor receives a passbook in which deposits, withdrawals, and interest are recorded.
- Average interest rate is fairly low and may vary slightly from institution to institution.
- Funds are easily accessible, in person, at an ATM, or through Internet banking.
- Passbook can be updated at an ATM.

chequing/savings account

- Basically the same as a savings account, except depositor may receive monthly statements instead of a passbook.
- Funds are easily accessible in person, by writing a cheque, at an ATM, through Internet banking or by Interac Direct Payment.
- Interest rates vary, based on type of account and size of balance.
- Interest-earning chequing account.
- Combines benefits of chequing and savings.
- Depositor usually earns interest on amounts above a set level in his/her account.



term deposits

what they are and how they work

- Financial institution pays a fixed amount of interest for a fixed amount of money for a fixed amount of time, usually less than one year.

benefits

- No risk
- Simple
- No fees
- Offers higher interest rates than savings accounts and lower than a GIC

trade-offs

- Money “locked in” for fixed term, compared to savings account
- Withdrawal penalty if cashed before end of fixed term (penalty may be higher than interest earned)

guaranteed investment certificates (GICs)



what they are and how they work

- Financial institution pays a fixed amount of interest for a fixed amount of money for a fixed amount of time, usually for longer than a year
- Most institutions require a larger minimum deposit than for a term deposit

benefits

- No risk
- Simple
- No fees
- Offers higher interest rates than a savings account and term deposit

trade-offs

- Money “locked in” for fixed and longer term, compared to term deposit
- Withdrawal penalty if cashed before expiration date (penalty can be higher than the interest earned)

Note: GICs mature if the holder dies before the maturity date.



how simple and compound interest are calculated

simple interest calculation

- **Dollar Amount x Interest rate x Length of Time (in years)**
= Amount Earned

example

- If you had \$100 in a savings account that paid 6% simple interest, during the first year you would earn \$6 in interest.
\$100 x 0.06 x 1 = \$6
- At the end of two years you would have earned \$12.
- The account would continue to grow at a rate of \$6 per year, despite the accumulated interest.

compound interest calculation

- Interest is paid on original amount of deposit, plus any interest earned.
(Original \$ Amount + Earned Interest) x Interest Rate
x Length of Time = Amount Earned

example

- If you had \$100 in a savings account that paid 6% interest compounded annually, the first year you would earn \$6.00 in interest.
\$100 x 0.06 x 1 = \$6
\$100 + \$6 = \$106
- With compound interest, the second year you would earn \$6.36 in interest.

The calculation the second year would look like this:

$$\begin{aligned} &\mathbf{\$106 \times 0.06 \times 1 = \$6.36} \\ &\mathbf{\$106 + 6.36 = \$112.36} \end{aligned}$$

how simple and compound interest are calculated



a compound interest formula:

- **Amount = Original \$ Amount $(1 + \text{Interest Rate})^N$**
where N is the number of compounding periods

example

- If you had \$100 in a savings account that paid 6% interest compounded annually over 2 years, your investment would grow to \$112.36

$$\text{\$100} \times (1 + .06)^2 = \text{\$112.36}$$

- If compounded semi-annually $N = 4$

$$\text{\$100} \times (1 + .06)^4 = \text{\$126.25}$$



choosing a savings account

factors that determine the dollar yield on an account:

Interest rate (also called rate of return, or annual yield)

- All money earned comes from this factor.

the following factors reduce money earned and can even turn it into a loss:

Fees, charges, and penalties

- Usually based on minimum balance requirements, or transaction fees.

Balance requirements

- On term deposits, most banks will pay different interest rates for different size balances. (Higher balance usually earns a higher rate.)

Balance calculation method

- Most calculate daily. Some use average of all daily balances.

the rule of 72



to determine about how many years it will take to double your money:

$$\frac{72 \text{ divided by}}{\text{Interest rate you can get}} = \text{Years to double investment}$$

to determine the interest rate that will double your money in a set number of years:

$$\frac{72 \text{ divided by}}{\text{Years to double investment}} = \text{Interest rate required}$$



what they are

- A bond is an “IOU,” certifying that you loaned money to a government or corporation and outlining the terms of repayment.

how they work

- Buyer may purchase a bond at a discount. The bond has a fixed interest rate for a fixed period of time. When the time is up, the bond is said to have “matured” and the buyer may redeem the bond for the full face value.

types

Canada Savings Bonds

- The safest investment you can make, backed by the Government of Canada.

Government

- Issued by federal, provincial, or municipal governments to raise money for government projects.

Corporate

- Sold by private companies to raise money.
- If company goes bankrupt, bondholders have first claim to assets, before stockholders.

mutual funds



what they are

- Professionally managed portfolios made up of stocks, bonds, and other investments.

how they work

- Individuals buy shares, and fund uses money to purchase stocks, bonds, and other investments.
- Profits returned to shareholders monthly, quarterly, or semi-annually in the form of dividends.

advantages

- Allows small investors to take advantage of professional account management and diversification normally only available to large investors.

types of mutual funds

Balanced Fund includes a broad mix of stocks and bonds.

Global Bond Fund has corporate bonds of companies from around the world.

Global Stock Fund has stocks from companies in many parts of the world.

Growth Fund emphasizes companies that are expected to increase in value; also has higher risk. Portfolios can vary widely in stock selection.

Dividend Fund features stock and bonds with common or preferred shares that generate dividends.

Specialized Fund invests in stocks of companies in a specific industry (such as technology, health care, banking, energy, natural resources).



mutual funds (continued)

types of mutual funds (continued)

Money Market Fund features short term instruments (less than one year) and T-bills.

Bond Fund features government and corporate bonds.

stocks



what they are

- Stock represents ownership of a corporation. Stockholders own a share of the company and are entitled to a share of the profits as well as a vote in how the company is run.

how earnings are made

- Company profits may be divided among shareholders in the form of dividends. Dividends are usually paid quarterly.
- Larger profits can be made through an increase in the value of the stock on the open market.

advantages

- If the market value goes up, the gain can be considerable.
- Money is easily accessible.

disadvantages

- If market value goes down, the loss can be considerable.
- Selecting and managing stock often requires study and the help of a good brokerage firm.



ways to invest

- Buy a house, live in it, and sell it later at a profit.
- Buy income property (such as an apartment house or a commercial building) and rent it.
- Buy land and hold it until it rises in value.

advantages

- Excellent protection against inflation.

disadvantages

- Can be difficult to convert into cash.
- A specialized type of investment requiring study and knowledge of business.

capital gains: profits from the sale of a capital asset such as stocks, bonds, or real estate, are also tax deferred; you do not have to pay the tax on these profits until the asset is sold.

registered retirement savings plans (RRSPs)



what they are and how they work

- Plans that help individuals set aside money to be used after they retire.
- Income tax not immediately due on money put into a retirement account, or on the interest it makes.
- Income tax paid when money is withdrawn.
- Penalty charges apply if money is withdrawn before the maturity date, except under certain circumstances.
- Income after retirement is usually lower, so tax rate is lower.

RRSP VALUE AT END OF YEAR (\$13,500 ANNUAL INVESTMENT AT 7% COMPOUNDED ANNUALLY) DATE OF ANNUAL INVESTMENT			
YEAR	JANUARY 2 OF TAX YEAR	EVERY MONTH (\$1,125/MO.)	MARCH 1 OF NEXT YEAR
7	\$125,007.33	\$121,259.06	\$103,102.11
14	325,741.80	315,974.62	290,566.79
21	648,077.48	628,645.25	591,594.11
28	1,165,678.15	1,130,725.96	1,074,978.19
35	1,996,831.71	1,936,957.86	1,851,187.40

When to contribute The best time to contribute to your RRSP is early in the tax year as opposed to waiting until the deadline the following year. You may also contribute on a monthly basis. The chart above indicates the differences in your investment values based on when you contribute. For example, if you contribute a total of \$13,500 a year to your fund, the value after 7 years will be over \$20,000 more if you make it in a lump sum contribution at the beginning of the year, instead of waiting until the deadline the following year, and almost \$4,000 more than if you contribute monthly. After 35 years, the difference will be as much as \$145,000!



registered education savings plans (RESPs)

What they are and how they work

- A tax-sheltered investment plan designed to help you finance your children's post-secondary education.
- Investment income earned on contributions grows tax-free until the child is ready for post-secondary education.
- The student usually pays no tax when the funds are withdrawn, for educational purposes, as he/she typically has little income.
- Parents, grandparents, aunts and uncles, or anyone else who wants to assist a child's education can participate.
- The federal government will contribute a grant representing 20% on the first \$2,000 in annual contributions made to an RESP for children under age 18. (Canada Education Savings Grant - CESG).

registered retirement income funds (RRIFs)



What they are and how they work

- A popular retirement income option, and natural extension of an RRSP. Basically a RRIF pays you back your RRSP investment as income.
- Required by law to convert RRSP's into a qualified form of retirement income once you reach age 69.
- Allows you to withdraw regular amounts of income over several years. All withdrawals are added to your taxable income for that year and you pay income tax only on the amount you withdraw. There is a minimum amount which you must withdraw each year based on your age.
- Plans are flexible because you decide the amount (above the minimum) and how often you receive the payments. You can make changes to the amount and payment schedule at any time or you may close the RRIF entirely and pay the appropriate tax on the entire amount.



comparing savings and investment plans

instrument	maturity	risk	yield	minimum balance	taxable?
Savings Account	Immediate	CDIC insures up to \$60,000	Low	\$5	Yes
Time/term Deposits	90 days or more	CDIC insures up to \$60,000	Moderate	Varies	Yes
Bonds					
■ Corporate	5–30 years	Some	Moderate	\$1,000	Yes
■ Municipal	1–20 years	Some	Moderate	\$5,000	Yes
■ Stocks	Immediate	Low to high	Low to high	Varies	Yes
CAN Treasury					
■ Bills	1 year or less	None	Moderate	\$10,000	Federal only
■ Notes	1–10 years	None		\$1,000	Federal only
■ Bonds	10–30 years	None		\$1,000	Federal only
Mutual Funds	Varies	Low to high	Moderate	Varies	Usually
Retirement Funds	When buyer is 69 years old	Low	Moderate	Varies	At maturity

avoiding investment fraud



each year billions of dollars are lost to fraudulent investments. Some of the most common include:

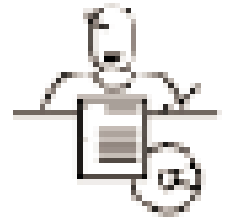
- Illegal pyramids, insider trading, and unlicensed investment brokers
- High-risk “penny” stocks and fraudulent securities
- Fraudulent franchises and business opportunities
- Internet services, 900-numbers, and high-tech investments promising high profits and minimal risk
- Opportunities to invest in movie deals and other entertainment ventures with promises of guaranteed profits and failure to disclose risk

to protect yourself from becoming a victim of investment fraud, take the following actions:

- Become informed about investments and industries before investing
- Talk with others who have made similar investments
- Obtain information from provincial and federal regulatory agencies
- Never buy over the phone without first investigating the situation
- Avoid investment opportunities promising large returns in a short amount of time that seem “too good to be true”—they probably are!

lesson twelve

saving and investing



student activities

name: _____

date: _____



setting your financial goals

short-range goal (within 1 month)

Goal: _____

Objective \$ _____
Estimated Cost \$ _____
Target Date \$ _____
Monthly Amount \$ _____

medium-range goal (2-12 months)

Goal: _____

Objective \$ _____
Estimated Cost \$ _____
Target Date \$ _____
Monthly Amount \$ _____

long-range goal (more than 1 year)

Goal: _____

Objective \$ _____
Estimated Cost \$ _____
Target Date \$ _____
Monthly Amount \$ _____

name: _____

date: _____



calculating interest



directions

Write the answers to the following questions in the blanks provided. Use the space below each problem to show how you arrived at your answers.

1. If you put \$200 in a savings account that paid 5.5% simple interest each year, how much interest would you earn in five years?

2. If you put \$150 in a savings account that paid 6% compounded yearly, how much interest would you earn in five years?

3. If you put \$25 each month into a savings account that paid a simple interest rate of 6.5% each year, how much interest would you have in your account at the end of two years?

4. If you put \$10 each week into a savings account that paid 6% interest compounded yearly, how much money would you have in your account after three years?



calculating interest answer key



directions

Write the answers to the following questions in the blanks provided. Use the space below each problem to show how you arrived at your answers.

1. If you put \$200 in a savings account that paid 5.5% simple interest each year, how much interest would you earn in five years?

\$55

$$\$200 \times 0.055 = \$11$$

$$\$11 \times 5 = \$55$$

2. If you put \$150 in a savings account that paid 6% compounded yearly, how much interest would you earn in five years?

\$50.73

$$\$150 \times 1.06 = \$159 \text{ (after 1 year)}$$

$$\$159 \times 1.06 = \$168.54 \text{ (after 2 years)}$$

$$\$168.54 \times 1.06 = \$178.65 \text{ (after 3 years)}$$

$$\$178.65 \times 1.06 = \$189.37 \text{ (after 4 years)}$$

$$\$189.37 \times 1.06 = \$200.73 \text{ (after 5 years)}$$

3. If you put \$25 each month into a savings account that paid a simple interest rate of 6.5% each year, how much interest would you have in your account at the end of two years?

\$639.00

$$\$300.00 \times 1.065 = \$319.50 \text{ (after 1 year)}$$

$$\$300.00 \times 1.065 = \$319.50$$

$$\$319.50 + \$319.50 = \$639.00 \text{ (after 2 years)}$$

4. If you put \$10 each week into a savings account that paid 6% interest compounded yearly, how much money would you have in your account after three years?

\$1,754.80

$$\$10 \times 52 = \$520$$

$$\$520 \times 1.06 = \$551.20 \text{ (after 1 year)}$$

$$\$551.20 + \$520 = \$1,071.20$$

$$\$1,071.20 \times 1.06 = \$1,135.47 \text{ (after 2 years)}$$

$$\$1,135.47 + \$520 = \$1,655.47$$

$$\$1,655.47 \times 1.06 = \$1,754.80 \text{ (after 3 years)}$$

name: _____

date: _____



selecting mutual funds



directions

For each of the investment situations below, select the type of mutual fund that would be most appropriate from this list:

Balanced Fund

Growth Fund

Dividend Fund

Money Market Fund

Global Bond Fund

Mortgage Fund

Global Stock Fund

Specialized Fund

1. A person wants an international mutual fund without the risks associated with stocks.
2. An investor wants to invest in short-term debt instruments.
3. An investor is interested in investing in energy stocks.
4. A person wants to invest in stocks from around the world.
5. A person is interested in long-term growth for future financial security.
6. An investor seeks to buy stock in companies located in Europe and Asia.
7. A retired person desires investment earnings from common and preferred shares that generate dividends.
8. A person wants to invest in a blend of stocks and bonds.
9. An investor wants to invest in technology industry stocks.
10. A person invests some funds in residential mortgages.



selecting mutual funds answer key



directions

For each of the investment situations below, select the type of mutual fund that would be most appropriate from this list:

Balanced Fund

Growth Fund

Dividend Fund

Money Market Fund

Global Bond Fund

Mortgage Fund

Global Stock Fund

Specialized Fund

1. A person wants an international mutual fund without the risks associated with stocks.

~~Global Bond Fund~~

2. An investor wants to invest in short-term debt instruments.

~~Money Market Fund~~

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~~Specialized Fund~~

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~~Global Stock Fund~~

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~~Growth Fund~~

6. An investor seeks to buy stock in companies located in Europe and Asia.

~~Global Stock Fund~~

7. A retired person desires investment earnings from common and preferred shares that generate dividends.

~~Dividend Fund~~

8. A person wants to invest in a blend of stocks and bonds.

~~Balanced Fund~~

9. An investor wants to invest in technology industry stocks.

~~Specialized Fund~~

10. A person invests some funds in residential mortgages.

~~Mortgage Fund~~

name: _____

date: _____

test your knowledge of saving and investing



directions

Write the answers to the following questions in the blanks provided. Use the space below each problem to show how you arrived at your answers.

1. How long would it take to double your money in an account that paid 6% per year?
2. What interest rate would double your money in 5 years?

In the space provided, write the letter of the savings account or savings method the statement represents. More than one response may apply.

- | | |
|-----------------------------|--------------------------------------|
| a) Savings account | c) Term Deposit |
| b) Chequing/Savings account | e) Guaranteed Investment Certificate |

3. _____ A combination of a chequing and savings account. Interest rates, which are based on a complex structure, vary with the size of your balance.
4. _____ Good investment for a longer period of time.
5. _____ Usually provides a passbook to customers.
6. _____ Bank pays a fixed amount of interest, on a fixed amount of money, for a fixed amount of time, usually for less than one year.
7. _____ Penalty is usually charged if money is withdrawn before expiration date.
8. _____ Lowest interest rate paid.

test your knowledge of saving and investing (continued)

In the space provided, write the letter of the investment vehicle the statement represents.

- | | |
|-----------------|------------------------|
| a) Bonds | d) Real estate |
| b) Mutual funds | e) RRSP |
| c) Stocks | f) Canada Savings Bond |

9. ____ This type of investment offers an excellent protection against inflation.
10. ____ The safest investment guaranteed by the federal government.
11. ____ Issuer agrees to pay investors a fixed interest rate for a fixed period of time.
12. ____ Contributions result in the current income tax payable.
13. ____ A way to own a part of a company and share in its profits.
14. ____ Professionally managed portfolios made up of stocks, bonds, and other investments.
15. List the four most important factors to consider when shopping for a savings account.
- _____
- _____
- _____
- _____
16. List the four main differences between saving and investing.
- _____
- _____
- _____
- _____



directions

Write the answers to the following questions in the blanks provided. Use the space below each problem to show how you arrived at your answers.

1. How long would it take to double your money in an account that paid 6% per year?

$$72/6 = 12 \text{ years}$$

2. What interest rate would double your money in 5 years?

$$72/5 = 14.4\%$$

In the space provided, write the letter of the savings account or savings method the statement represents.

- | | |
|-----------------------------|--------------------------------------|
| a) Savings account | c) Term Deposit |
| b) Chequing/Savings account | d) Guaranteed Investment Certificate |

3. b A combination of a chequing and savings account. Interest rates, which are based on a complex structure, vary with the size of your balance.
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6. c Bank pays a fixed amount of interest, on a fixed amount of money, for a fixed amount of time, usually for less than one year.
7. cd Penalty is usually charged if money is withdrawn before expiration date.
8. b Lowest interest rate paid.

test your knowledge of saving and investing answer key

In the space provided, write the letter of the investment vehicle the statement represents.

- | | |
|-----------------|------------------------|
| a) Bonds | d) Real estate |
| b) Mutual funds | e) RRSP |
| c) Stocks | f) Canada Savings Bond |

9. d This type of investment offers an excellent protection against inflation.
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13. c A way to own a part of a company and share in its profits.
14. b Professionally managed portfolios made up of stocks, bonds, and other investments.
15. List the four most important factors to consider when shopping for a savings account.

Interest rates
Balance requirement
Fees, charges, penalties
Balance calculation method

16. List the four main differences between saving and investing.

Degree of risk
Availability of funds for use
Rate and stability of return
Amount of protection against inflation

lesson twelve quiz: saving and investing



true-false

1. _____ A time deposit must be held for a set amount of time such as six months or a year.
2. _____ Compound interest refers to money earned from buying a tax-exempt investment.
3. _____ A share of stock represents ownership in a company.
4. _____ A mutual fund is an investment issued by a government agency.
5. _____ Treasury bonds are a safer investment than real estate.

multiple choice

- | | |
|---|--|
| <p>6. _____ The lowest interest rate is usually earned on a:</p> <ul style="list-style-type: none">A. term deposit.B. savings account.C. GIC.D. mutual fund. <p>7. _____ The total interest earned on \$100 for two years at 10 percent (compounded annually) would be:</p> <ul style="list-style-type: none">A. \$2B. \$21C. \$11D. \$10 <p>8. _____ Based on the rule of 72, money earning 6 percent would take about _____ years to double.</p> <ul style="list-style-type: none">A. 6B. 8C. 9D. 12 | <p>9. _____ An example of a company's debt is a:</p> <ul style="list-style-type: none">A. corporate bond.B. share of stock.C. mutual fund.D. municipal bond. <p>10. _____ The investment with the most risk would be:</p> <ul style="list-style-type: none">A. a savings account.B. CAN Treasury bills.C. corporate stocks.D. corporate bonds. |
|---|--|

case application

The Johnson family includes Marv (age 34), Gail (33), Andrew (8), and Molly (4). What are some investment goals that might be appropriate for this family? What types of investments might be used to achieve these goals?



lesson twelve quiz: saving and investing

answer key

true-false

1. t A time deposit must be held for a set amount of time such as six months or a year.
2. f Compound interest refers to money earned from buying a tax-exempt investment.
3. t A share of stock represents ownership in a company.
4. f A mutual fund is an investment issued by a government agency.
5. t Treasury bonds are a safer investment than real estate.

multiple choice

6. B The lowest interest rate is usually earned on a:
A. term deposits.
B. savings account.
C. GIC.
D. mutual fund.
7. B The total interest earned on \$100 for two years at 10 percent (compounded annually) would be:
A. \$2
B. \$21
C. \$11
D. \$10
8. D Based on the rule of 72, money earning 6 percent would take about _____ years to double.
A. 6
B. 8
C. 9
D. 12
9. A An example of a company's debt is a:
A. corporate bond.
B. share of stock.
C. mutual fund.
D. municipal bond.
10. C The investment with the most risk would be:
A. a savings account.
B. CAN Treasury bills.
C. corporate stocks.
D. corporate bonds.

case application

The Johnson family includes Marv (age 34), Gail (33), Andrew (8), and Molly (4). What are some investment goals that might be appropriate for this family? What types of investments might be used to achieve these goals?

Common investment goals in this situation might be to create an RESP to save for the children's college education, or an RRSP to save for retirement. The Johnsons might start their saving-investing program with a savings account, term deposit, or GIC. Next, they might consider an aggressive stock mutual fund that could give them good long-term growth for the education and retirement funds. All of those are easier to implement with an automatic withdrawal each month from a bank account to the savings account or the investment company.